Mrs. Hayden

Name_____ Date_____

Review of Determinants

Solve each system using Cramer's Rule.

1. $2a + 3b = 6$
   $2a + b = -2$

2. $3x - 4y = 2$
   $4x - 3y = 12$

3. $3x - 5y = 10$
   $-12x + 20y = -40$

4. $a + b + 5c = 2$
   $3a + b + 2c = 3$
   $4a + 2b - c = -3$

5. $x + 3y - z = 5$
   $2x + 5y - z = 12$
   $x - 2y - 3z = -13$

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Expand by minors to evaluate the determinant. Show work!

6. $\begin{vmatrix} -2 & 3 & 1 \\ 0 & 4 & -3 \\ 2 & 5 & -1 \end{vmatrix}$

7. $\begin{vmatrix} 2 & -4 & 1 \\ 3 & 0 & 9 \\ -1 & 5 & 7 \end{vmatrix}$

8. $\begin{vmatrix} 0 & -4 & 0 \\ 2 & -1 & 1 \\ 3 & -2 & 5 \end{vmatrix}$

9. $\begin{vmatrix} 2 & 1 & 0 \\ 1 & 8 & 0 \\ 0 & 5 & -1 \end{vmatrix}$

Use determinants to find the area given the coordinates.

10. (3, 5), (6, -5), (-4, 10)

11. (-8, 10), (6, 17),(2, -4)

Can you multiply the following matrices? If so what would the dimensions be?

12. $A_{3x4}\ B_{4x8}$ 13. $C_{6x3}\ D_{3x2}$ 14. $E_{9x2}\ F_{9x4}$ 15. $G_{3x1}\ H_{1x8}$